

body 12 in what is known in the industry as "laydown" cutting position. The retaining device of this embodiment comprises a pocket and a holddown screw, which passes through the center of insert major face 15 and into the tool body in a manner known in the art. Insert 14 is adjustably secured to the tool body by retaining device 24.

5 Sleeve 50 is positioned in the cavity 44 of tool body 12 by adjusting screw 70 such that abutment flank 56 contacts abutment surface 46 of the cavity 44 and flexing flank 58 engages insert 14. No clearance space is required as flexing surface 58 of sleeve 50 does not adjoin a clearance surface 47 of cavity 44, but instead extends only along the insert.

10 67. It is intended that the specification and examples be considered as exemplary only. Other embodiments of the invention, within the scope and spirit of the following claims will be apparent to those of skill in the art from practice of the invention disclosed herein and consideration of this specification. All documents referred to herein are incorporated by reference hereby.

15 CLAIMS

What is claimed is:

1. A device for adjusting the position of a cutting insert adjustably secured in a pocket disposed in a cutting tool body, comprising:

20 a cavity in said cutting tool body, at least a portion of said cavity being contiguous with the pocket;

an intermediate component disposed within said cavity and comprising an external peripheral surface and at least one expansion mechanism, said external peripheral surface engaging the insert at said contiguous portion; and

a wedging device movably attached to the cutting tool body and engaging the intermediate component such that actuation of the wedging device results in expansion of the intermediate component in a direction substantially parallel to a desired direction of adjustment of the insert.

2. The device of claim 1, wherein said expansion mechanism comprises slots and a tapered portion disposed on a first region of an internal peripheral surface of said intermediate component.

3. The device of claim 1 wherein said wedge device comprises a conical wedge.

4 The device of claim 3 wherein said wedge device includes an adjustment screw threadingly engaged to the tool body.

5. The device of claim 1 wherein said intermediate component defines a portion of a pocket side of said pocket.

6. The device of claim 1 wherein the intermediate component further comprises a plurality of end faces, each end face being intersected by at least one of said expansion elements.

7. The device of claim 1 wherein actuation of the wedging device causes expansion of the intermediate component along substantially the entire length of said component.

8. The device of claim 3 wherein said conical wedge is tapered at an angle of between about 30° to 5°.

9. The device of claim 3 wherein said intermediate component comprises an internal peripheral surface having a tapered portion for engaging a side of said conical wedge.

10. A device for adjusting the position of an insert relative to a cutting tool body, comprising:

a retaining device including a pocket in said tool body having a pocket floor and pocket sides for adjustably securing said insert;

a sleeve disposed in a cavity in said tool body, said cavity being at least partially contiguous with said pocket, said sleeve engaging a flank of said insert;

an adjustment screw engaging said sleeve such that actuation of said screw causes expansion of the sleeve along substantially the entire length of said sleeve exerting translational force on said insert flank thereby adjusting a position of the insert in relation to said tool body.

11. The device of claim 10 wherein said adjustment screw comprises a wedge in engagement with said sleeve

12. The device of claim 11 wherein said wedge is conical.

13. The device of claim 12 wherein said conical wedge is tapered at an angle of between about 30° to 5°.

14. The device of claim 12 wherein said sleeve includes tapered portion for engaging a side of said conical wedge.

15. The device of claim 10 wherein said sleeve comprises slots and a tapered portion disposed on a first region of an internal peripheral surface of said sleeve.

16. The device of claim 10 wherein said retaining device includes a clamping screw threadingly engaged to the tool body for securing said insert to said tool body.

5 17. The device of claim 15 wherein the sleeve further comprises a plurality of end faces, each end face being intersected by at least one of said slots.

18. The device of claim 10 wherein said cutting tool is a rotary cutter.

10 19. An adjustable tool assembly comprising a tool body having a removably attached cartridge and an insert adjustably secured in a pocket in said cartridge, the tool assembly further comprising an adjustment device for transmitting axially outward-directed force to the insert, whereby the adjustment device allows fine adjustment of positioning of the insert on the tool body; the adjustment device comprising a cavity in said cartridge, at least a portion of said cavity being contiguous with the pocket;

15 an intermediate component disposed within said cavity and comprising an external peripheral surface and at least one expansion mechanism, said external peripheral surface engaging the insert at said contiguous portion; and

a wedging device movably attached to the cartridge and engaging the intermediate component such that actuation of the wedging device results in
20 expansion of the intermediate component in a direction substantially parallel to a desired direction of adjustment of the insert.

20. A method for adjusting the position of an insert relative to a cutting tool body, wherein said tool body has a retaining device including a pocket having a floor and sides for adjustably securing the insert to said tool body, comprising the steps of:

positioning an insert in a pocket in engagement with an intermediate

5 component secured in a cavity contiguous with said pocket, the intermediate component comprising an external peripheral surface and at least one expansion mechanism, said external peripheral surface engaging the insert at said contiguous portion;

tightening the retaining device to adjustably secure the insert in the pocket;

10 and

actuating a wedging device, said wedging device being in engagement with the expansion mechanism, thereby causing expansion of the intermediate component resulting in change of position of the insert.